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December 18, 2017

Advice No. 5208-A
(U 904 G)

Public Utilities Commission of the State of California

Subject: Partial Supplement: Advice Letter Providing Information Pursuant to Resolution G-3529

Southern California Gas Company (SoCalGas) initially filed Advice No. (AL) 5208 on October 30, 2017 to provide the information requested in California Public Utilities Commission (Commission or CPUC) Resolution (Res.) G-3529. As requested by CPUC Staff, SoCalGas files this partial supplement to AL 5208 to provide supplemental information regarding AL 5208's winter reliability analysis.

Background

On May 8, 2017, the Executive Director sent a letter to Bret Lane, President and Chief Operating Officer of SoCalGas, entitled "SoCalGas Summer Reliability and Storage Inventories." The letter states that "[a]dequate natural gas inventory levels are necessary in order to maintain reliable delivery to customers during peak demand periods for both core and non-core customers" and that "[w]ith the continued unavailability of Aliso Canyon, overall storage inventory remaining in the available storage fields is substantially lower than historical figures. . .." To support energy reliability for Southern California, the May 8 Letter directs SoCalGas to "take immediate actions to increase storage injection at the remaining available storage facilities" and "to immediately begin maximizing storage injections using the procurement capabilities of the SoCalGas Gas Acquisition Department to support SoCalGas' storage requirement for system reliability." (the "System Reliability Directive").

In the System Reliability Directive, SoCalGas was directed to file a Tier 2 AL "proposing an agreement between the SoCalGas System Operator and the SoCalGas Gas Acquisition Department to support SoCalGas' storage requirements for system reliability similar to the Memorandum in Lieu of Contract approved by Resolution G-3485."

In addition, the System Reliability Directive stated that SoCalGas should include the following in its Tier 2 AL:

- Minimum month-end storage targets for the remaining months of 2017 beginning with June 2017;
- Forecasted monthly natural gas storage quantities procured by the Gas Acquisition Department solely for the purpose of ensuring system reliability outside of its normal business as usual procurement for core customers; and
- An estimated cost for the Gas Acquisition Department to provide these support services.

Additionally, SoCalGas was directed to file a separate AL seeking the establishment of a memorandum account to track costs resulting from the Injection Enhancement Plan.[1]

SoCalGas filed AL 5139 and AL 5140 on May 19, 2017, in compliance with the System Reliability directive. Res. G-3529 was issued on June 29, 2017, regarding AL 5139, approving SoCalGas' proposed Injection Enhancement Plan (IEP) but denying proposed temporary modifications to the System Operator Injection Capacity Limits. In addition, Ordering Paragraph 3 provided that SoCalGas "shall file an advice letter containing a status report of storage inventories, costs incurred from the IEP, and an analysis of system reliability for the upcoming winter within thirty days of the expiration of the IEP and the Injection Enhancement Memorandum (IEM) on September 30, 2017."[2] AL 5140 was approved effective May 8, 2017, by disposition letter issued on July 11, 2017.

On October 30, 2017, SoCalGas filed AL 5208 to comply with Res. G-3529 and included analysis of system reliability for the upcoming winter that included a supply and demand outlook.

CPUC staff has requested that SoCalGas supplement the AL 5208 winter analysis to include consideration of changes that have occurred since AL 5208 was filed. In response, SoCalGas is filing this supplemental AL to incorporate the following occurrences into AL 5208's winter reliability analysis:

- The CPUC clarified that previous instructions regarding systemwide storage withdrawal rates were intended as targets, not requirements;[3]

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[1] *See* AL 5140, Expedited Advice Letter Requesting to Establish the Injection Enhancement Cost Memorandum Account (IECMA) Pursuant to the May 8, 2017 "SoCalGas Summer Reliability and Storage Inventories" Letter from CPUC Executive Director Timothy Sullivan.

[2] Res. G-3529 at p. 10.

[3] On February 15, 2017, SoCalGas sent a letter to Executive Director Sullivan indicating its intent to convert its fields to tubing-only flow operation as part of a Storage Safety Enhancement Plan (SSEP). SoCalGas had proposed that the tubing-only flow configuration and other enhancements be completed immediately at its three other storage fields earlier in 2017. The work, however, was deferred on the wells at SoCalGas' Honor Rancho and Goleta storage fields because SoCalGas received a directive on March 16, 2017 from Mr. Sullivan to defer that work so that SoCalGas could maintain a mandated level of withdrawal capacity to support system reliability. Subsequently, in a letter dated November 16, 2017, Mr. Sullivan clarified that the withdrawal capacity requirements were, "intended to provide summer and beginning of winter targets for storage field withdrawal capacity – not to require that peak withdrawal capacity be maintained at all times."

- SoCalGas resumed safety enhancement work, including converting the fields to tubing-only flow operation, as part of the Storage Safety Enhancement Plan (SSEP) at La Goleta and Honor Rancho;[4]
- The CPUC updated and finalized its Aliso Canyon Withdrawal Protocol, which limits Aliso Canyon to an "asset of last resort";[5]
- SoCalGas completed flow testing at Aliso Canyon to validate gas withdrawal flow rates at Aliso Canyon;[6] and
- The CPUC issued an updated 715 Report, which determined the authorized inventory levels at Aliso Canyon.[7]

To address these occurrences, and as requested by the CPUC's Energy Division, SoCalGas provides the following supplemental information.

Supply Outlook

Available Flowing Pipeline Supplies

SoCalGas' outlook for its flowing pipeline supply capacity is unchanged from AL 5208's original findings. Table 1 from AL 5208 is provided below for reference. SoCalGas expects that its receipt capacity will increase by another 200 MMcfd to 2,970 MMcfd once Line 4000 is restored to service, operating at a reduced pressure, by December 25, 2017.

[4] On December 1, 2017 SoCalGas resumed SSEP work as described by SoCalGas' February 15, 2017 letter and has completed the conversion to a tubing-only flow configuration and other safety enhancement work outlined in that letter. This conversion process temporarily reduces capacity at Honor Rancho and Goleta, but will ultimately enhance the safety of the overall gas system.

[5] The Aliso Canyon Withdrawal Protocol indicates the circumstances when SoCalGas may withdraw from Aliso Canyon. As stated in the protocol, "Aliso Canyon will be treated as the "asset of last resort" used for withdrawals after all other alternatives have been exhausted as defined by the protocol…" (Aliso Canyon Withdrawal Protocol at p. 1).

[6] SoCalGas performed flow testing on specified wells at the Aliso Canyon Gas Storage field to validate the gas withdrawal flow rate. Based on the results, SoCalGas has developed updated well deliverability rates that indicate that Aliso Canyon's total peak daily withdrawal capability at its current inventory level has increased. Additional work is occurring to refine the estimated gas withdrawal flow rate.

[7] The 715 Report authorizes SoCalGas to maintain Aliso Canyon working gas inventory within a range of 0 Bcf to 24.6 Bcf. The most recent 715 Report increases the inventory available to support the system by increasing the maximum Aliso Canyon inventory by 1 Bcf and reducing Aliso Canyon's minimum inventory levels to 0 Bcf. SoCalGas does not, however, have experience operating Aliso Canyon in its current configuration and at such extreme low inventory levels. Therefore, SoCalGas is uncertain of the facility's ability to withdraw gas in sufficient quantities, but expects dramatically reduced withdrawal capabilities associated with declining inventories.

Table 1
Available Flowing Pipeline Supplies

Receipt Point	**Supply (MMcfd)**
North Needles	0 [1]
Topock	0 [2]
Kramer Junction	700 [3]
Blythe	1010
Otay Mesa	200 [4]
Wheeler Ridge/Kern River Station	800 [5]
California Production	60 [6]
TOTAL	2,770

[1] No receipt capacity due to Line 235 and Line 4000 outage.
[2] No receipt capacity due to Line 3000 outage.
[3] SoCalGas temporarily increased the operational receipt capacity of Kramer Junction from 550 to 700 MMcfd on 10/19/17.
[4] Historically, no supply delivered at Otay Mesa.
[5] The firm capacity of the Wheeler Ridge receipt point is 765 MMcfd. SoCalGas is able to increase the capacity to 800 MMcfd on a seasonal basis in the winter due to increased demand downstream of the receipt point.
[6] Although SoCalGas has firm receipt capacity of 310 MMcfd for local California production, producers are utilizing only approximately 60 MMcfd of that capacity for actual flowing supplies.

Available Storage Supplies

Table 2 below summarizes the withdrawal capacity available at Honor Rancho, La Goleta, Playa del Rey, and Aliso Canyon. The use of Aliso Canyon, however, is still subject to the CPUC issued Aliso Canyon Withdrawal Protocol, which stipulates that the field is to only be used as an “asset of last resort” and only used “after all other alternatives have been exhausted as defined by the protocol.”[8] Because of this restriction, for planning purposes, SoCalGas does not factor in the use of Aliso Canyon to meet the CPUC-mandated 1-in-10 year cold day design standard. This is similar to the approach SoCalGas used in the hydraulic analysis prepared for AL 5208.

[8] Aliso Canyon Withdrawal Protocol at p. 1.

Table 2
Projected Storage Withdrawal

Storage field	Inventory (BCF)	Withdrawal (MMCFD)
Honor Rancho	25.4	735
La Goleta	18.6	260
Playa del Rey	1.7	300
Aliso Canyon	24.6	847
TOTAL	70.3	2,142

As before, these withdrawal rates are dependent upon having sufficient inventory and the number of wells available to maintain the withdrawal rate for an extended time. As inventories are depleted, the withdrawal rates from the fields decline. As a result, these withdrawal rates are only available when the fields are within a specific range of inventory levels.

Demand Outlook

1-in-10 Year Cold Day Event

As presented in AL 5208, the forecast level of demand during the 1-in-10 year cold day event is 4.955 BCFD:

Table 3
Forecast Customer Demand During 1-10 Year Cold Day Event

Customer Type	Winter Demand (BCFD)
Core	3.250
Noncore, Non-Electric Generation	0.805
Noncore, Electric Generation	0.900
TOTAL	4.955

To avoid curtailments, the above 4.955 BCFD must be supplied through a combination of flowing supply (interstate pipeline supplies and local California produced supplies) and storage withdrawal. Given the level of pipeline flowing supply and storage withdrawal capacities (excluding supply from Aliso Canyon) shown in Tables 1 and 2, SoCalGas expects that it will have insufficient supplies to meet the 1-in-10 year cold day demand forecast. The supply shortfall is calculated at 890 MMcfd. The 1-10 year cold day demand forecast cannot be met even with all the non-Aliso storage fields at full inventory, including Aliso Canyon at its current authorized inventory, and 100% of the currently available receipt point capacity.

The hydraulic modeling of the transmission system with the SSEP impacts at Honor Rancho and La Goleta finds the system capacity to be 3.5 BCFD without the use of Aliso Canyon, increasing to 3.7 BCFD with the partial restoration of Line 4000. Even with the estimated withdrawal capacity from Aliso Canyon of 847 MMcfd, SoCalGas still has

insufficient capacity and supply to meet the 1-in-10 year cold day demand forecast. Therefore, our findings from AL 5208 are unchanged: if the 1-in-10 year cold day event were to occur, as required by SoCalGas' CPUC-approved tariff rules, noncore customers would need to be curtailed, beginning with noncore electric generators.

Furthermore, although the supply shortfall is calculated at 890 MMcfd, this is calculated using simple mass balance and assumes the entire receipt capacity of the SoCalGas system is used (i.e., 100% utilization). Assuming full receipts will be delivered every day throughout the winter season is unrealistic. As an example, CPUC Staff proposed the use of 85% receipt point utilization in the draft SB 380 modeling framework.

Next, although Aliso Canyon mitigates the risks to energy reliability and may be used in emergency situations, the CPUC's Withdrawal Protocol limits its use. As such, as mentioned, SoCalGas includes Aliso Canyon in reliability planning as a last resort contingency. Further, even with the inclusion of Aliso Canyon withdrawal, the level of available supply is insufficient to meet peak hour demand.

1-in-35 Year Peak Day Event

For the upcoming winter season, the forecast level of demand during the 1-in-35 year peak day event is 3.454 BCFD. This is within SoCalGas' system capacity with the current level of outages, and the ability to meet this level of demand has been confirmed with hydraulic simulation. SoCalGas therefore believes that its ability to maintain continuous service to the core customers is not at risk this winter; however, this entails all noncore service being curtailed, in accordance with the CPUC-approved design standard.

Examination of Seasonal Storage Needs

In addition to the examination of SoCalGas' ability to meet the CPUC's mandated reliability design standards, SoCalGas examined the use of its available storage throughout the winter season in Table 4 of AL 5208. In AL 5208, SoCalGas included Aliso Canyon in its analysis and concluded that, even with Aliso Canyon, storage inventory was depleted before the end of the winter. Subsequent to that analysis, the CPUC finalized and issued its Aliso Canyon Withdrawal Protocol, which clarified when Aliso Canyon could be used. With this clarification, SoCalGas removed Aliso Canyon from Table 4 because Aliso Canyon is only able to support the system in emergency situations, which tend to be daily or hourly events. Aliso Canyon is not planned to be used regularly to manage system reliability and maintain inventory levels systemwide. Rather, Aliso Canyon is available in emergency situations, to support system reliability, consistent with the Aliso Canyon Withdrawal Protocol.

Table 4 is assessing seasonal or monthly storage utilization. Table 4 is a monthly mass balance between California Gas Report forecasted demand and available supply, and, as such, items which impact the daily withdrawal capacities do not impact the results of Table 4. This means that Table 4 is not impacted by the recent flow tests at Aliso Canyon; the SSEP work; or the CPUC's clarification that systemwide withdrawal rates are targets, not requirements. Further, because the use of Aliso Canyon is limited to use under

specific circumstances, Table 4 is similarly not impacted by the 715 Report's increased inventory range. The recalculated assessment is shown below.

Table 4
Monthly Storage Utilization Assessment

	Dec-17	Jan-18	Feb-18	Mar-18
AVG TEMP BASE HYDRO				
CGR demand (MMCF)	99262	96999	86072	81623
Pipeline supply (MMCF), 85%	72990	78260	70686	78260
Storage withdrawal (MMCF)	26273	18740	15386	3364
Month-End Storage inventory (MMCF)	19437	697	-14689	-18053
COLD TEMP DRY HYDRO				
CGR demand (MMCF)	109275	107074	94164	88350
Pipeline supply (MMCF), 85%	72990	78260	70686	78260
Storage withdrawal (MMCF)	36286	28815	23478	10091
Month-End Storage inventory (MMCF)	9423	-19391	-42869	-52960

The data shows that storage supplies at Honor Rancho, Playa del Rey, and Goleta are depleted before the end of January under the cold temperature/dry hydro demand condition, and before the end of February under the average temperature/base hydro demand condition. The inventory at Aliso Canyon would remain available and could be used consistent with the Aliso Canyon Withdrawal Protocol.

Protest

Anyone may protest this AL to the Commission. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. At the direction of Energy Division, the protest must be made in writing and must be received within ten days of the date of the date of this AL with the expedited protest period, which is December 28, 2017. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

CPUC Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Copies of the protest should also be sent via e-mail to the attention of the Energy Division Tariff Unit (EDTariffUnit@cpuc.ca.gov). A copy of the protest should also be sent via both e-mail and facsimile to the address shown below on the same date it is mailed or delivered to the Commission.

Attn: Ray B. Ortiz
Tariff Manager – GT14D6
555 West Fifth Street
Los Angeles, CA 90013-1011
Facsimile No.: (213) 244-4957
E-Mail: ROrtiz@semprautilities.com

Effective Date

SoCalGas believes that this filing is subject to Energy Division disposition, and should be classified as Tier 2 (effective after staff approval) pursuant to GO 96-B. SoCalGas respectfully requests that this filing be approved and made effective November 29, 2017, which is the original requested effective date for AL 5208.

Notice

A copy of this AL is being sent to SoCalGas' GO 96-B service list and the Commission's service lists for I.17-02-002, I.17-03-002, and A.15-07-014. Address change requests to the GO 96-B service list should be directed by electronic mail to Tariffs@socalgas.com or call 213-244-2837. For changes to all other service lists, please contact the Commission's Process Office at 415-703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

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Ronald van der Leeden
Director – Regulatory Affairs

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **SOUTHERN CALIFORNIA GAS COMPANY (U 904G)**

Utility type:
☐ ELC ☒ GAS
☐ PLC ☐ HEAT ☐ WATER

Contact Person: Ray B. Ortiz
Phone #: (213) 244-3837
E-mail: ROrtiz@semprautilities.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas
PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 5208-A

Subject of AL: Partial Supplement: Advice Letter Providing Information Pursuant to Resolution G-3529

Keywords (choose from CPUC listing): Reliability and Storage

AL filing type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:
Resolution G-3529

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL[1]: N/A

Does AL request confidential treatment? If so, provide explanation: No

Resolution Required? ☐ Yes ☒ No

Tier Designation: ☐ 1 ☒ 2 ☐ 3

Requested effective date: 11/29/17

No. of tariff sheets: 0

Estimated system annual revenue effect: (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Ave.,
San Francisco, CA 94102
EDTariffUnit@cpuc.ca.gov

Southern California Gas Company
Attention: Ray B. Ortiz
555 West 5th Street, GT14D6
Los Angeles, CA 90013-1011
ROrtiz@semprautilities.com
Tariffs@socalgas.com

[1] Discuss in AL if more space is needed.